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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/549,424

09/15/2005

Osamu Funahashi

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P.O. BOX 980

VALLEY FORGE, PA 19482

EXAMINER

ELBIN, JESSE A

ART UNIT

PAPER NUMBER

2614

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/549,424	Applicant(s) FUNAHASHI, OSAMU	
	Examiner JESSE A. ELBIN	Art Unit 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 November 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5 is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 July 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Double Patenting

1. Claims 1-3 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, and 3-4 of copending Application No. 10/549771 ('771) in view of Kiyotaka et al. (JP 08-1002993 ('993) (already of record)) in view of Kuze et al. (US PGPub 2002/0051558 ('558) (already of record)). While the claims of the two applications are not identical, the differences were not found to be patentably distinct in view of the prior art of record. See art rejections below.

This is a provisional obviousness-type double patenting rejection.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on 8 March, 2004. It is noted, however, that applicant has not filed a certified copy of the 2004-063525 application as required by 35 U.S.C. 119(b).

Response to Amendment

3. The amendment of 04 November 2008 has been entered.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Funahashi et al. (US PGPub 2003/0185415 ('415) (already of record)) in view of Kiyotaka et al. (JP 08-102993 ('993) (already of record)), further in view of Kuze et al. (US PGPub 2002/0051558 ('558) (already of record)).

Regarding claim 1, Funahashi teaches a speaker (loudspeaker; '415 Title) comprising: a frame ('415 #19); a magnetic circuit ('415 #9); a voice coil unit ('415 #15 and [0042] line 1) disposed slidably with respect to a magnetic gap ('415 #14) provided in the magnetic circuit ('415 #9); a diaphragm ('415 #17) coupled to the voice coil unit ('415 #15 and [0043] lines 2-3) at its inner peripheral part (circumferential end part; '415 [0043] lines 1-3 and Fig. 7) and to the frame ('415 #19) at its outer circumferential end part via a first edge ('415 #18 and [0044] lines 1-2); and a suspension holder ('415 #25) coupled to a rear surface of the diaphragm ('415 Fig. 7) and coupled to the frame ('415 #19) at its one end via a second edge ('415 [0044] lines 9-12), and the voice coil unit ('415 #15), diaphragm ('415 #17) and suspension holder ('415 #25), acting as a single solid body ('415 Fig. 7), to suppress rolling of the voice coil unit ("Suspension holder 20, second edge 21 and first edge 18 form a suspension, which prevents voice coil member 15 from rolling in working" [0048] lines 4-6 *wherein one of ordinary skill in the art would recognize the inclusion of a suspension holder serves two purposes; namely damping*

resonances of the moving members, and preventing the voice coil from rolling when in operation).

Funahashi does not teach the magnetic circuit being disposed inside the frame; or an edge diameter in a cross section of the second edge is set to be larger than an edge diameter in a cross section of the first edge.

In the same field of endeavor, Kiyotaka teaches an edge diameter in a cross section of the second edge ('993 Fig. 1 #2b) is set to be larger than an edge diameter in a cross section of the first edge ('993 Fig. 1 at #10) for the benefit of adjusting the damping characteristics according to design requirements.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the first or second edge as taught by Funahashi with the varied diameters as taught by Kiyotaka for the benefit of adjusting the damping characteristics according to design requirements.

Neither Funahashi, nor Kiyotaka explicitly teach the magnetic circuit being disposed inside the frame.

In the same field of endeavor, Kuze teaches the magnetic circuit ('558 Fig. 1 ##6-9) being disposed inside the frame ('558 Fig. 1 #5) for the benefit of protecting the magnetic circuit.

It would have been obvious to one of ordinary skill in the art at the time of the invention to dispose the magnetic circuit within the frame as taught by Kuze in the speaker device taught by the combination of Funahashi and Kiyotaka, for the benefit of protecting the magnetic circuit.

Regarding claim 2, Funahashi, Kiyotaka, and Kuze remain as applied above.

Funahashi further teaches the first edge ('415 Fig. 12 #29) is protruded toward the magnetic circuit (allowed to bend downward; '415 Fig. 12 and [0060] lines 7-8) and the second edge ('415 Fig. 12 #30) is protruded toward the diaphragm (allowed to bend upward; '415 Fig. 12 and [0060] lines 8-9).

Regarding claim 3, Funahashi, Kiyotaka, and Kuze remain as applied above.

Funahashi further teaches the first edge ('415 Fig. 1 #18) is protruded toward an opposite side of the magnetic circuit (allowed to bend upward; '415 Fig. 1 and [0045] lines 1-2) and the second edge ('415 Fig. 1 #21) is protruded toward the magnetic circuit (allowed to bend downward; '415 Fig. 1 and [0045] lines 2-3).

Allowable Subject Matter

6. Claim 5 is allowed.
7. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
8. The following is a statement of reasons for the indication of allowable subject matter: the limitation in claims 4-5 ("ratio of the edge diameter of the second edge to the edge diameter of the first edge is in a range of greater than 1.0 and less than or equal to 1.5") is not anticipated or made obvious to the prior art of record. The range of

said ratio is supported in the specification and figures as adding a benefit over the prior art, and therefore was not found to be obvious over the prior art of record, which simply taught a difference in the diameter (rather than a specific ratio between the diameters).

Response to Arguments

9. Applicant's arguments filed 04 November 2008 have been fully considered but they are not persuasive.

10. Applicant argues that amended claim 1 is now patentable over the prior art of record. Examiner respectfully disagrees, as the amendment merely recites features, which are well known in the art, which inherently perform the function claimed. As stated in the art rejection above, suspension holders are present in nearly all speakers, as they inherently perform two important functions. Suspension holders are designed to have a specific resiliency in order to dampen oscillations in the speaker without greatly reducing the output. Further suspension holders largely prevent rolling of the voice coil, preventing the bobbin from impacting parts of the magnetic circuit. Further, as described in the art rejection above, Funahashi et al. teaches inclusion of the suspension holder is to "prevent voice coil member from rolling in working" in both the description to the present invention ([0048] lines 4-6) and the background art ([0004] lines 5-6).

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JESSE A. ELBIN whose telephone number is (571)270-3710. The examiner can normally be reached on Monday through Friday, 9:00am to 6:00pm EDT.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on (571) 272-7499. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2614

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. A. E./

Examiner, Art Unit 2614

/CURTIS KUNTZ/

Supervisory Patent Examiner, Art Unit 2614